THE AMERICAN BEE JOURNAL
CIRCULATES
ALL OVER THE WORLD
PUBLISHED BY
THOS. G. NEWMAN & SON.
CHICAGO, ILL.

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EDITOR.

Vol. XXV. Feb. 9, 1889. No. 6.

EDITORIAL BUZZINGS.

Music when soft voices die
Vibrates in the memory!
Odors when sweet violets sicken
Live within the sense they quicken.

Life is Not so Short but that there is always time for courtesy.

The Mild Weather of December and January had its effects on the maples of New England. In Maine and Vermont, and other sections, trees yielded a good flow of sap, and sugar was made in mid-winter, a very unusual occurrence. So says an exchange.

Lizzie Cotton's advertisement has been refused by the Orange Judd *Farmer*. She sent it to the Editor with a small book describing her controllable bee-hive and methods with bees, which she claims will make those who use them rich. She is *modest*, if selling a book worth at most ten cents, and a hive not worth two dollars, for $12.00 can be called modesty!

United Efforts.—Mr. William Stolley, of Grand Island, Nebr., on Jan. 26, 1889, when sending his dues to the National Bee-Keepers' Union, remarks thus:

The bee keepers, as a class, are very much like the farmers; they seem not to comprehend the great advantages of combining for their own good and protection, else the members of the Bee Keepers' Union would have been counted by the thousands long ago. Being absent from home when the officers were elected, I did and could not vote, but I am well pleased with the officers elected.

It is too true, Brother Stolley, but they seem to be asleep—apathy reigns supreme.

NeuerSchweizerBienenfreund is the title of a new monthly Swiss bee-paper, by U. Studer, Niederried, Switzerland, the second number of which is on our desk. This makes the third periodical on bee-keeping now being published in our small sister Republic, where one is "an abundance."

It seems a strange infatuation, that leads to such a multiplication of bee-periodicals. Where one good bee-paper could live and be a real benefit to the pursuit, two or three will spring up and none of them be able to make their influence *felt*, because of their weakness, by reason of the splitting up of the subscription patronage. What would support one would starve three.

This is a *calamity* which is threatened in every bee-keeping country. The power for good and influence for right, which one strong and vigorous publication would maintain, is frittered away by reason of an unhealthy increase of bee-papers. It behooves all to look this matter squarely in the face, and refrain from lending their influence to an increase in this line, which is detrimental to the entire craft.

Until a few years ago England had no bee-paper—now she has three; two too many! A quarter of a century ago in America there was but one (the AMERICAN BEE JOURNAL), now their names are legion, and as a result some of them are sick and dying; others are only half supported, and the *influence* of all, by reason of the multiplication, is much *impaired!*

All this is the result of the suicidal mania for publishing a bee-paper; and if it is not soon stopped, the time will come when many of them will die, and their owners will be poorer but wiser men.

It is quite time to call for *a halt* on such reckless increase—which is just as detrimental in the field of literature as it is in the apiary. In both cases, too much increase will destroy the business, and ruin those who should be benefited by the investment.

Cleaning Propolis from Sections is quite essential, so as to make them attractive when put upon the market. This is usually done by scraping the edges, but a correspondent suggests that a thin shaving be cut off instead of scraping them. He adds:

This is more quickly and easily done with a sharp knife than by scraping, looks better when finished, and there is not so much danger of damaging the capping as is the case in scraping. Bees should never be permitted to get to the outside of sections, but it is impossible to prevent their daubing propolis on the edges, hence the necessity of cleaning. Honey, to bring top prices, must be pleasing to the eye as well as palatable.

Mrs. J. W. Tefft, of Collamer, N. Y., died of pneumonia on Jan. 21, 1889, at Buffalo, N. Y., while visiting friends there. She is mourned by a large circle of friends, as well as her bereaved family.

Mr. William Raitt, of Blairgowrie, Scotland, and one of the editors of the *Bee-Keepers' Record*, published at Liverpool, England, is dead. He died suddenly on Tuesday, Jan. 8, 1889. He was 49 years of age, a widower, and leaves a family of seven children, mostly grown up. From the *British Bee Journal* of Jan. 17, 1889, we gather the following particulars:

On the previous evening he attended what was considered a very successful evangelistic meeting in the Mission Hall, Blairgowrie. On going home from it, he seemed to be in his usual health, and specially happy. About six o'clock next morning, one of his boys, who slept with him, heard him breathing heavily, and called some of the other members of the household, who, on going into the room with a light, saw he was apparently dying, and he expired in a few minutes. The Doctor had been sent for, and shortly arrived. He expressed the opinion that the cause of death had been stoppage of the action of the heart. About three years ago Mr. Raitt had been found almost dead in bed from a similar cause.

Mr. Raitt was a progressive and practical apiarist, and dealer in apiarian supplies. He was the first in England to obtain an American foundation machine, and that was in 1877. He will be sadly missed both in apicultural and social circles.

Personal Discourtesy is entirely unnecessary as well as undesirable when endeavoring to correct an error. We often think some of our best friends err in judgment or in argument, but to correct them will sometimes give offense and break up friendship. A correspondent lately made the following remarks in a private letter:

I have ceased to fight with men as a rule, and now give battle to wrong ideas, as they come out in print. This gives both sides of the question without raising the anger of any one. That this is the better way, I think you will agree. I think it advisable, when battling wrong ideas, to do it so that I can enlighten the public, and not give offense.

We certainly do agree with our correspondent in the above extract, and would gladly have all correspondents copy that noble example.

Statistics are being gathered of the Colorado honey industry. J. M. Clark, of Denver, has reports from about 150 bee-keepers in that State. They report a crop of honey for 1888 of 75,000 pounds. He estimates the crop (including those who have not yet reported) at 100,000 pounds. Concerning this matter, the Colorado *Farmer* remarks as follows:

This is the first attempt ever made to gather statistics of this industry, which will soon be of great importance, as our vast stores of alfalfa give us the advantage over many other States. Our few cloudy days enable them to gather sweets when in more cloudy States they would be hugging the hive.

Alfalfa.—A farmer at Santa Ana, Calif., raised eight crops of alfalfa last year. He was making hay on New Year's Day.

GLEANS OF NEWS.

Prof. A. J. Cook has just returned from New York, where he has been delivering addresses to large audiences in various parts of the State, on "The relation of bees to agriculture." The Professor is an interesting speaker, and his addresses will do much good, by enlightening the agricultural portion of the community upon the true relation of bees to their chosen vocation.

At Albany, N. Y., he delivered a lecture, the outline of which, in the *Country Gentleman*, is as follows:

There is a close relationship between the forces and phenomena of nature. The winds affect the moisture, and the moisture modifies the winds. We cut the forests and let loose the wind and the rain. We crop continuously, starve our soil, and go to the poor-house. Science, which explains this relation, is man's best servant.

This connection of bee-keeping with agriculture well illustrates this relationship, and shows that the farmer needs to know the "whys and wherefores" of all his surroundings. Charles Darwin discovered years ago that cross-fertilization is necessary to full fruitage of many of our plants. Some yield nothing without it. Only insects can do this work for many plants. Early in the season the honey-bee is the only insect common enough to do this work to any large extent. The honey-bee was not a native to America. Thus we know why our early wild flowers are scattering, while the late ones cover the fields and marshes as with a garment. In California, where no winter kills the insect hosts, the early flowers cover the plains.

The honey-bees can reach the nectar of Alsike clover; so the first bloom gives seed. The red clover must wait for bumble-bees, and so the second crop alone is productive. Experiments here and the history of New Zealand prove this. There no seed was produced until the bumble-bee was introduced. Now they raise their own seed. By caging bumble-bees on red clover we can secure seed from the first bloom. Hereafter as we raise our large crops of clover seed, let us think gratefully of the beautiful bumble-bees, rich in their yellow and gold, whose joyous melody in the clover field means for us a bounteous crop and a full pocket-book.

We should especially remember that owing to the cold our insects largely die off, and so for a full fruitage of our plants that bloom early, we must have the honey-bee. This has been proved over and over. Any cultivated plant with sweet or showy flower seeds, must have insects or they cannot bear a full harvest. Our introduced plants mostly bloom in the spring. How important then the bees!

In some cases the wind may be sufficient. Doubtless in all cases insects are great helpers. How often our fruit fails of a full crop, because the cold and rain shut up the bees during the time of bloom. Thus it goes without saying, that the farmer and fruit-grower must either keep bees themselves, or induce their neighbors to do so, or they will fail of the best success. There must be no antagonism between the farmer and orchardist and the bee-keeper. Nature wills that they be friends.

Bees never injure the blossoms of plants; their visits are always and only a benefit. Nor do bees ever destroy sound fruit. The structure and habits of bees, no less than observation, show that this is true. Bees will never attack fruit until a puncture or break in the skin lets free the juice. Then the bee is quick to save the wasting sweets.

By drawings it was shown that the wasp's jaw was made to tear, but the bee's was not, being gouge-shaped. Bees do, however, visit grapes in swarms, when, for any reason either the puncture of the bird or wasp, or by nature, the juice oozes out. They also crowd about the cider and pomace at the cider-mill, and swarm about raisins exposed to dry out-of-doors. Here the parties interested must unite by screens and other care to mitigate the evil, and then bear and forbear, for all are interested that the bees do not suffer harm. The raisin industry followed the bees, and so bees have the "right of possession." Is it not right then that raisins be dried in enclosures? I am persuaded that when the farmer, gardener and orchardist rightly understand the importance of bees in the natural economy of their own operations, all disputes and unneighborly differences will disappear, and each will rejoice in the others' prosperity, if for no higher motive than mere selfishness.

How Do Bees Breathe?—In an essay by Mr. John Aspinwall, read at the New York State Convention, we find the following very interesting paragraphs:

Bees require a breathing apparatus quite as well as ourselves, and I think it will astonish you when I tell you how complicated it is. In the first place, bees have no lungs like a horse or bird. They do not depend upon one organ to supply the oxygen necessary to enable the several parts to perform their functions.

Before going further, let me explain that the air we breathe is composed of three gases, one of which, oxygen, is the element that sustains *life*, as well as the fire which burns in the grate. Life may be called a burning process.

In ourselves, our blood comes in contact with oxygen within the lungs, and then travels by the most delicate channels to every part of our body. In the bee there is a blood pump like our heart. It is called the "dorsal vessel," and resembles some-

The Handy Dissecting Microscope, made by Bausch & Lomb, Rochester, N. Y.

what an injector, such as is found on every locomotive, but depends upon the opening and shutting of valves, for its successful operation. It leads the blood, received through the several openings in it, to the head, whence it oozes back through the whole body.

Instead of lungs, bees have what is called a "tracheal system"—a trachea is merely an air-tube—and these air-tubes travel in every conceivable direction within the body. They receive the outside air through openings in the body, called spiracles. Adult bees have fourteen of these openings. The spiracles open into large sacs, from which branch out the tubes before spoken of. As I before said, the blood does not receive the oxygen from lungs, and hence these air-tubes must perform this life-giving function. Every part, every member, however small, however delicate, must be reached by these breathing tubes. Bees breathe with a regular motion, but instead of an expanding and contracting of the chest, it is a lengthening and shortening of the abdomen. Watch a tired bee stop at the entrance before going in, and you will see it pant like a tired horse....

Take a good sized pill-box and fill it half full of wax. Catch a worker, and kill it with ether, chloroform or alcohol, and permit the killing fluid to evaporate. With a hair pin, heated over a lamp, make a little bath of melted wax in a convenient spot in the pill-box, and having clipped off the wings and legs of the bee, drop it on its back in the little bath aforesaid. The bee should not be more than half immersed in the wax, which is then allowed to cool. When cold, which will be in about a minute, pour water over the bee until it is covered. In a good light—say sun light—with a needle knife (made by heating the point of a coarse sewing-needle until red hot, hammering it with a tack hammer, on the face of a flat-iron, and after tempering by heating cherry red and plunging in water, sharpened on a hone, and inserted in a match, for a handle), and a fine needle inserted in another match, go to work and cut away the under part of the rings of the abdomen, and carefully lift them off.

If you have good eyesight, or if not, by aid of a cheap lense (magnifying glass) of good construction, you will be astonished at the sight before you. There lie the honey-sac, digesting stomach, bile tubes and intestine. Running in all directions, but starting from the sides, you will note fine white tubes branching out into smaller, and these organs into still smaller, until lost to sight. These are the air-tubes I have been talking about, and you will note that they not only encircle the digesting stomach, but are wound around the other parts in sight. If your lense be strong enough, and you have not ruptured it in your dissection, you may find the nerve system, which lies just under, or when the bee is right side up, just over the wax-producing portion of the abdomen, and which runs the whole length of the bee from tail to brain. You will find it composed of two "cords" almost transparent, with occasional bulgings in which the two "cords" are joined. In and about this very nerve system you will find the fine breathing tubes before spoken of. Up into the compound eye, with its thousands of lenses, run other breathing tubes, every lense being supplied with oxygen in this manner, so that its functions may be performed.

The Ontario Bee-Keepers' Convention was held last month at Owen Sound, the residence of R. McKnight, Esq., Registrar of the County of Grey, who gave the visiting apiarists a right royal welcome. Concerning the next meeting of the International Bee-Association at Brantford, the *Times* remarks thus:

A discussion ensued as to the best course to be adopted in view of this important gathering being had for the second time on Canadian soil. Some were in favor of merging the annual meeting of the Ontario Association with that of the larger body, but it was objected that this could hardly be done in view of the legal status held by the Ontario body. It was felt to be desirable that the American visitors should be received with all cordiality, and to secure this, a special general meeting of the Association was resolved on, and the President and Board of Directors were appointed a delegation to the International body.

The Rev. W. F. Clarke is the President, and Mr. R. F. Holtermann an officer, and we may rest assured that the "cordial reception" will be all that those words imply. We hope for a meeting second to none in the history of the International Society.

QUERIES AND REPLIES.

Extending the Brood-Chamber to Secure More Bees.

Written for the American Bee Journal

Query 611.—Is it necessary, or advisable, to again expand the brood-chamber to secure bees enough for the colony to winter well, having been contracted to 5 or 6 Langstroth combs through the white honey season, or from about July 1 to Aug. 10?—New York.

Yes.—H. D. CUTTING.

Yes, sir.—J. M. HAMBAUGH.

I think not.—A. J. COOK.

I am afraid that it is.—C. C. MILLER.

I should say that it is desirable.—A. B. MASON.

It is not necessary, but in my opinion it is desirable.—R. L. TAYLOR.

No; 6 frames are sufficient both for brood and stores.—MRS. L. HARRISON.

Yes. *I* do not practice "contracting" during the honey season. "Keep your colonies strong."—W. M. BARNUM.

I would certainly use more frames in the brood-chamber, if there was a good flow of honey, and the season was favorable.—J. P. H. BROWN.

We never would contract to 5 or 6 Langstroth frames. It is more damaging than useful.—DADANT & SON.

The more bees, the better. I prefer to contract for winter, than during the summer.—P. L. VIALLON.

If I had contracted the hives to 5 or 6 Langstroth frames, I think that I should again expand them to about 8 frames, to make sure of getting plenty of bees for winter.—C. H. DIBBERN.

No, not in this locality; nor do I believe that it is necessary in any similar locality in the United States.—JAMES HEDDON.

Much depends upon locality and season. In some seasons it would be advisable, and in others it would not. I would not contract at all, unless I expected to feed for winter stores.—M. MAHIN.

Not to secure bees, but it is often advisable to so do, that the dark or fall honey may be stored in the brood-comb for food for the bees to winter on.—G. M. DOOLITTLE.

The contracting and expanding question is as yet wholly theoretical, and no rule can be laid down to govern it. The only rule I know of in the matter is, to expand as the colony seems to demand. My bees winter well on from 3 to 8 or 9 Langstroth frames.—J. E. POND.

Do you refer to out-door wintering when, you say, "bees enough for the colony to winter well?" If so, perhaps it would be desirable, still I think that even 5 or 6 frames well filled with brood would make a strong colony—certainly strong enough if wintered in a proper repository. More bees than are necessary to winter well are a positive damage to the bee-keeper after the honey flow.—EUGENE SECOR.

In the first place, I think that it is a mistake to contract at all, if your hives are no larger than an 8 or 10 frame Langstroth hive; but if you must waste your time and injure your bees in that way, it will be necessary to build up your wasted and impoverished colonies if you would have them in good trim for wintering.—G. W. DEMAREE.

I think that the 8-frame Langstroth brood-chamber is just right. This chamber is 12 inches wide, inside. I contract by slipping in an extra brood-frame, making 9; this lessens the spare space, and gives more room for brood, thus crowding the bees into the supers. I consider horizontal, and vertical contraction, and the checking of the queen's disposition to lay, the cheapest kind of "twaddle."—J. M. SHUCK.

Though it is not necessary, it may be desirable to do so under certain circumstances; but as a general rule it is not advisable to do so.—THE EDITOR.

Keeping Bees in a House or Shed.

Written for the American Bee Journal

Query 612.—I have a bee-shed 64 feet long, extending east and west; it is 8 feet wide, and the north side has shutters, so that I can raise them in hot weather, and close them in the time of swarms. On the west end of it I have a house for keeping honey and bee-fixtures. The sun does not shine on the hives at all in hot weather. 1. Is this a good place to keep bees? 2. Is a house a good place to keep bees in, and let them pass through openings in the wall?—Ind.

1. No. 2. I think not.—A. J. COOK.

1. Yes. 2. Not so good as a lawn, in my opinion.—WILL M. BARNUM.

I have never used a "bee-house." I prefer the open ground.—H. D. CUTTING.

1. I would not like it. 2. I would not like a house, either.—C. C. MILLER.

I prefer to have my hives out-of-doors.—J. P. H. BROWN.

1. Yes. 2. The shed is far better than a house.—DADANT & SON.

1. It is, both for winter and summer. 2. I have never used a house, but I would not consider it desirable.—MRS. L. HARRISON.

I prefer to have bees in the open air, and, if possible, partially shaded from the evening sun by trees.—P. L. VIALLON.

1. You ought to be able to answer this question better than I can, for I never tried it (and I never shall). I have never heard of a bee-house (or house apiary) that paid the interest on the investment.—EUGENE SECOR.

1. In this climate I prefer that bees stand out, with only a little shade in the summer. Your shed is all right for winter. 2. I doubt it.—M. MAHIN.

1. Your description is too indefinite. Does the sun shine on the bees in cool weather? Is the shed an open one, or is it closed on all sides? If it is cool in hot weather, and warm in cool weather, it would do. 2. That depends. See answer to 1. It would generally be a very inconvenient place.—R. L. TAYLOR.

1. A shed like you describe has been often used, but I think with poor satisfaction. It requires a great deal more labor to manipulate bees in a penned-up place like a shed. 2. No.—G. W. DEMAREE.

1. The shed has its advantages and disadvantages, all things considered. I would prefer open territory, with large sun shades, and wind-breaks on the north and west. 2. NO!—J. M. HAMBAUGH.

1. I prefer to have the hives where the sun can shine on them in the morning and evening, and be shaded in the hotter part of the day. 2. Having never tried it, I do not know. Some prefer a house.—A. B. MASON.

After keeping bees for many years, in all sorts of places, I prefer at last the full glare of the summer sun. Let the hives have a good shade-board for the hottest weather. I do not think that a house or a shed, or a shady place, is a good place to keep bees.—J. M. SHUCK.

1. I know a bee-keeper who has just such a shed, and his bees do well, and it is a comfortable place for bees and bee-keeper. 2. A house where the bees pass out through the wall is a very good place for bees, but the expense of such a place is out of proportion to all the advantages. A good hive and a little shade is all that is required.—C. H. DIBBERN.

1. With proper care and attention I should say that it would, although I prefer the open air. 2. From my own experience, I should say no. Some claim to have been successful with such houses. They demand too much care and attention to suit my time or convenience.—J. E. POND.

1. It is very good in some respects, and very bad in others. I prefer the entirely out-doors system. 2. I abandoned the house apiary, where the bees flew through the wall. It has both advantages and disadvantages, but more of the latter, I think, considering expense and all.—JAMES HEDDON.

I should prefer to have each hive stand out by itself, on a well-kept lawn; but your arrangement might answer very well, if the hives are not so close as to be unhandy about working among them.—G. M. DOOLITTLE.

Houses and sheds for bees have been "tried and found wanting." No place has been discovered so far which is as generally desirable for an apiary as a well-kept open lawn. Wind-breaks on the north and west are sometimes an advantage, if the apiary is on level ground, and not shielded by friendly woods not far away.—THE EDITOR.

CORRESPONDENCE.

PRICE OF HONEY.

Extracted and Comb Honey at the Same Price.

Written for the American Bee Journal

BY DR. C. C. MILLER.

On page 20 occur the following words: "If there be anything to complain of, it was the action of those who first used the honey-extractor, in placing the price of liquid honey at a less amount than was asked for honey in the comb, with wood, glass and wax weighed up to the buyer! It would be a very difficult matter now to raise the price of the clean, *net*, liquid article—but at the outset it would have been an easy matter to have obtained a larger price for it than for that in the comb."

I produce comb honey nearly altogether, the higher price to be obtained for it being my reason, perhaps coupled with the fact that for years I have made a special study of producing comb honey. But when you come right down to the intrinsic value of honey as an article of food, I think that I must always admit that the same honey is to me better out of the comb than in it. In fact I always prefer for my own eating extracted honey, if it is equal in quality to that in the comb, and I generally produce enough extracted honey so that I can have it on the table three times a day.

If I remember rightly, I have seen the ground taken that chewing the comb gives a piquancy of flavor, or a something that is wanting in the extracted. Take a nice section of honey, cut away half of it and get the free honey from it, either by running it through the extractor, or by pressing it out with a knife. Now you have a half section of honey in the comb, and the clear honey from the other half. If I eat a piece of the comb honey of the size of a hickory-nut, and then with a spoon eat the same quantity of the clear honey, I must say that there is something more satisfactory about the comb honey. What is it? It can hardly be a difference in the honey, for taking the honey out of the comb could not change its quality.

It is claimed that the wax gives the extra flavor. But the wax can give no flavor that it does not possess, and if the wax is chewed alone it has scarcely any flavor, certainly nothing remarkably fine. I cannot think any improved flavor is given by the wax. I think that the difference arises from the fact that in the one case the honey is chewed, and in the other it is not; or, if you please, the comb honey is eaten, and the clear honey is drank. The act of chewing excites the flow of the secretions of the mouth, and this increases the pleasure of the taste.

When I have been extracting honey, I have found that nearly every one who happened to be present, liked to chew the cappings, and a good many of them thought the flavor better than that of honey in any other form. I think that it was simply because there was more chewing.

I think, therefore, we must admit that it is pleasanter to eat the comb honey than to take the same amount of clear honey without chewing. But do we usually use the clear honey without chewing? Of course not, and the question is, not which tastes better eaten alone, but which tastes better eated with bread or some other article of food. In that case one kind gets as much chewing as the other, and I doubt whether the advocates of the wax flavor can tell whether they are eating comb honey or extracted honey on their bread, except as they can *feel* the wax in the mouth. The wax is indigestible, and as ordinarily eaten I know of no advantage in having it present.

So I come back to where I started, that if the quality be the same in each case, I prefer extracted honey to comb honey. But that *if* comes in the case, and "there's the rub." In the majority of cases, the quality of extracted honey is *not* equal to that of comb, and indeed you cannot expect it to be, so long as raw nectar is extracted with the honey, and then no pains taken to ripen or improve it. I suspect that if the quality of extracted honey were always what it might be, and what it should be, that comb honey would be, to a large extent, driven out of the market.

Then why should extracted honey command any lower price than comb? Some succeed in getting the same price for it, and it is the thought of a good many that it never should have been sold for any less price than comb honey. If a wrong has been done, is it too late to right it? Suppose we place the same price on each by raising the price of extracted and lowering that of comb. My friends, the thing wouldn't work. The great law of supply and demand controls the honey market just as it does every other market. You will never again buy a buffalo-robe for as low price as formerly, because the supply has almost ceased. Some kinds of fur that formerly sold for a high price, although in no greater supply than formerly, bring a low price because fashion has forbidden their use, and demand has ceased.

But you say extracted honey as an article of food is of equal value with comb, therefore the price should be equal. I grant your premise, but not your conclusion. If you are correct, then I might say that cotton goods make better overalls than silk, therefore the cotton goods should be higher in price. The fact is, the two kinds of honey are to some extent independent of each other. If people find, in general, that extracted honey is not equal in quality to comb honey, the demand will be less. Then the appearance of comb honey on the table gives it a greater value in the eyes of many.

Now, please do not throw so much blame on those who have sold extracted honey at low prices. It costs more to produce comb honey than the extracted, and so long as that is the case, I think we will always find the price for comb honey higher.

Granulation of Honey.

Referring to Mr. Bovee's opinion about honey granulating (see page 20), I may say that I never knew honey to granulate so early for me as this year. I think that some of it commenced to granulate within two weeks after extracting. The fact that Mr. Bovee never saw honey granulate within two months after extracting, does not warrant him in saying that it never does so. It is possible there might be found persons who had never seen granulated honey, but that does not warrant them in denying its existence.

But please do not be too hard on Mr. Bovee. We have all made mistakes, such as saying that all pure honey would granulate.

Marengo, Ills.

[The foregoing article is right to the point. If extracted honey is equal in quality to the comb, it certainly *is* of more value, because it is *all honey*, and minus the wax and wood. Upon that

"if" hangs the whole argument as to its real value and deliciousness.

As to the pleasure in eating comb honey, there is a certain gratification in chewing it, but the *real* delight in eating it is that of *absorbing* its delicious sweetness; and that is done by the sense of *taste* located in the tip of the tongue. It is "rolled under the tongue as a sweet morsel," says an old sage. David, the psalmist, also avers that wisdom is "sweeter than honey and the honey-comb"—by implication assuming that the comb is even sweeter than the honey it contains!

When eating extracted honey, it is carried by the spoon to the tongue beyond the tip where the sense of taste is located, and much of the pleasure of eating it is lost.

Even though the wax is indigestible, chewing the wax and mashing both together brings out that peculiar sweetness which is so pleasant to the sense of *taste*, and accounts for the soothing, satisfying, and delightful sensation produced by eating honey in the comb, or of chewing the fresh cappings.

We sent a "proof" of the foregoing article and comments to Dr. Miller, and this is his reply:

Does not the "honey-comb" in the Scriptures always mean honey in the comb? See Luke 24, 42.

If the implication is "that the comb is even sweeter than the honey it contains," then I am wrong, and comb honey has an intrinsic value beyond "extracted." But *supply and demand* is what controls price. My customers have always been told that extracted is intrinsically better than comb, and I kept the price the same as long as I could, but it cannot be held there.

We admit that sometimes the word "honey-comb" in the Bible means "honey in the comb," but *not* always. In the passage quoted from the Psalms such a meaning would make the quotation nonsensical!

That commercial "supply and demand" control prices is true; but public sentiment and education, either in right or wrong channels, are very potent in regulating *values*, and thereby influencing "supply and demand!"

The Doctor correctly told his customers that extracted honey was "intrinsically better than comb," and held "the prices the same" as long as he could, but public sentiment had been educated that it was of *less value* than comb, and "supply and demand," so educated, "regulated" the price at the less amount—and that is the reason he has to admit that "it cannot be held there." The education was erroneous, and the regulation unjust.—ED.]

LOVE AND HONEY.

Love is the centre and circumference,
The cause and aim of all things; 'tis the key
To joy and sorrow, and the recompense
For all the ills that have been or may be.

Love is as bitter as the dregs of sin,
As sweet as *clover-honey* in its cell,
Love is the password whereby souls get in
To heaven—the gateway that leads sometimes to hell.—*Selected.*

EXPERIENCE.

How I Began the Business of Bee-Keeping.

Written for the American Bee Journal

BY F. C. ERKEL.

In the first part of July, 1885, I bought a couple swarms of black bees in box-hives, and moved them home, about two miles, in a spring buggy, before they brought in enough honey to cause any danger of breaking down the new, tender combs. They went right to work, and in spite of

A swarm of bees in July
Is not worth a fly,

as I had been told, they filled up their hives, and were in good condition to go into winter quarters.

I hardly knew the very first thing about bees. I *had* found a swarm on a bush four or five years before, when I was a small boy, and my father had given an old man a dollar for an old box in which he had put the bees when we took them home, and let them stand until they perished the following winter. We had never heard of such a thing as wintering bees in the cellar. I do not think that before I found that cluster, I could have distinguished a honey-bee from a bumble-bee, but when I made up my mind to buy a couple colonies, I also decided to find out all I could about bee-keeping, and handle them in an intelligent manner, or not at all.

I talked with all the old bee-keepers that I met, and got all the information possible; most of them told me that I had better get movable-frame hives, if I had really decided to keep bees; but that I would be sorry I had ever turned my attention toward that industry. One man with whom I talked the most, and who supplied most of the market round about, told me that he had been keeping bees for a number of years, and during all that time he had kept a strict account, and that the bees were in debt to him after all that time. I must confess that that discouraged me some, but I decided that I would not back out until I found out for myself, if there was any profit in them.

In the winter of 1885–86, I put 2 colonies in box-hives in one corner of the cellar, which I had divided off with building paper. I turned the hives upside down, and removed the bottom-board, which left them without a top, but with plenty of air. There I left them until spring, when I took them out of the cellar and placed them on the summer stands; but may be I did not have an interesting time of it, placing back the bottom-boards on those old box-hives with the tops of the combs all covered with bees, which acted in a very hostile manner, I thought, toward one who was trying to work for their own good; but I got them out, just the same, even if the folks did hardly recognize me for the next few days.

The bees went to work with all their little "mights," bringing in pollen, and by May 1, both swarmed, the two large swarms going together, making about three pecks of bees. Then I was in a pretty mess. I had ordered some new hives to put the swarms into, but they had swarmed long before I expected it, and the hives had not yet come. Then, what an idea for them to go together in that way! I had never heard of such a thing.

I nailed together two box-hives, put them on a table which I put under the limb on which the bees clustered; then I shook the bees off the limb in front of the hives, and with a wing I guided about half the bees into each hive, in hopes that there was a queen in each hive, for I wanted to increase my number of colonies, and I thought that it would be a great detriment to have them go together in that way; but it did no good, for although I had them divided quite equally, it was but a short time before they were all in one hive again. I think that was the largest swarm I have ever seen, and they made good use of the time, for in a few days they had the hive full of comb, and swarmed, and they and the old ones kept on swarming, so that in the fall I had 3 colonies in box-hixes, and 7 in Simplicity hives. I had increased the 2 colonies to 10, and had taken some comb honey.

During this time I made pretty good use of bee-books, and decided to rear

some queens the next summer, if my bees should again winter nicely in the cellar. They were in good condition when I put them in, and in the spring I took out all the 10 colonies with (as it seemed to me) very little less honey than they had in the fall.

I bought another colony in a box-hive, and one in a Simplicity hive which had a very nice Italian queen, so that in the spring of 1887 I began with 12 colonies, and put 38 colonies into the cellar in the fall, besides about half a dozen that absconded, and one which I sold. I thought that was pretty good for two years, and although I did not get much honey, I had increased my apiary, which I cared more for than honey, and had also given most of my colonies young queens that I reared myself, and brought them up from blacks to hybrids.

I now thought that I had better begin to work for honey, and not quite so much for increase, for although I take the AMERICAN BEE JOURNAL, and, as a general thing, read every word in it, together with other bee-literature, I began to fear that my colonies would increase faster in number if I should let them go on, than I would increase my knowledge of bee-keeping.

Le Sueur, Minn.

BEES OUT-DOORS.

Good Way to Secure the Sowing of Alsike Clover.

Written for the American Bee Journal

BY I. J. GLASS.

I do not know what kind of a bee-keeper I will be called when I say that my bees are still on the summer stands, without any protection whatever. I have previously wintered my bees in the cellar without loss, as I have stated in former communications; but owing to my time being completely occupied in other duties, I have somewhat neglected my bees.

I cultivate a farm of 200 acres, and teach school during the winter, which keeps me pretty well occupied. I have waited all the while for a "cold snap" before carrying them into the cellar, and whenever it did turn a little cold, by the time Saturday came (the day I have outside of school hours), it would always be moderated, and sometimes the bees were on the wing. So I have kept procrastinating until here it is, near the middle of January, giving us regular spring weather. Although there is plenty of time yet to give us a few blizzards, yet I do not look for much severe cold weather.

I supposed all the while that I had 61 colonies, but upon investigating them I find one hive deserted from lack of stores. I thought they were all abundantly supplied with good honey, but that one had been overlooked; the remaining sixty are in splendid condition.

I took 1,000 pounds of surplus from my bees the past season, and retailed the greater part of it at 18 cents per pound in my home market. My bees did not store a particle of surplus honey until after the middle of August, when the boom set in. My hired man let several swarms go to the woods, thinking it useless to secure them so late in the season.

Alsike for Bee-Pasturage.

I induced a neighbor of mine to sow 65 acres of Alsike clover, by paying the difference between it and red clover seed. I got big returns the first season, and another neighbor is going to sow a lot the coming spring, under the same conditions. This, with what I have sown, and what I am going to sow next spring, will give me an abundance of bee-pasturage.

We have had no white clover here for the past two seasons, but the prospect is flattering for a big yield another year, and I trust we who have been having poor yields, will be able surprise even ourselves.

Sharpsburg, Ills., Jan. 14, 1889.

AFTER-SWARMS.

The Various Methods of Preventing them.

Written for the American Rural Home

BY G. M. DOOLITTLE.

There are various methods of doing this, such as removing the old colony to a new stand, as soon as the swarm has left it, setting the hive containing the new swarm on the stand it previously occupied; cutting off all of the queen-cells but one on the fifth or sixth day after swarming, and hiving the after-swarms in a box on top of the old hive till the next morning after they come out, when they are to be shook out of the box in front of the old hive, and allowed to run in, so that the young queens will all but one be destroyed. Now all of the above plans have their various advocates, who think them superior to anything else, but as the correspondent has asked for the *best* plan, I must give him the plan which I consider best from my standpoint.

There are two plans which I have used with good success at all times, and use them in accord with what I wish to do with the old colony of bees. Where I wish to treat swarms the way they are generally treated by hiving them on a new stand, I proceed as follows: As soon as the swarm is hived, I go to the old hive from which it came, and mark on it with a lead pencil, Sw'd, 6-22, which tells me at a glance that a swarm came from that hive on June 22, should that be the date on which the swarm issued, and the one which was marked on the hive. If it should be another day the date is different, but the plan is the same as suited to any day on which the swarm is cast.

On the evening of the eighth day from the date on the hive, I listen a moment at the side of the old hive, and if swarming has been done "according to rule," I hear a young queen piping. when I know that a queen has hatched, and an after-swarm will be the result if it is not stopped. If no piping is heard, I do not listen again till the evening of the thirteenth day, for the next rule is, that the colony swarmed upon an egg or small larva being placed in the queen-cell, which allows the queen to hatch from the 12th to the 16th day after swarming. If no piping is heard by the evening of the 17th day, no swarm need be expected.

When it is heard, which it will be in nineteen cases out of twenty, on the eighth day, I go early the next morning and take every frame out of the hive, shaking the bees off of each (in front of the entrance) as I take them out and return them again, so I shall be sure and not miss a queen-cell, but cut all off, for we know that there is a queen hatched, from the piping which we have heard. Once in a great while the bees will take a notion to go with the queen when she goes out to be fertilized, but such a happening is of rare occurrence, and has nothing to do with what is known as after-swarming. The above is a sure plan of accomplishing what we desire to, under all circumstances which may arise, while those spoken of at first will work at times, and at others not.

The other plan which I use is equally successful with the above, but is used only where the old hive is carried to a new stand while the swarm is in the air, hiving the new swarm on the old stand; in which case I proceed as follows: As soon as the swarm is seen issuing from any hive, I go to the shop where I get a box or hive, which has previously been prepared, having the desired number of frames (I use frames of comb in this case) in it, taking it to the hive from which the swarm came, when the frames of comb are set out of the box near the hive. I now open the hive and take out the frames of brood, putting them in the box. If the combs of brood seem to be well covered with bees, and the

weather is warm, I shake a part of them off in front of the hive, before putting the combs in the box. If few bees, or cool weather, I put all in the box, setting the box in the shade, and a rod or so from the hive, as soon as all of the frames of brood and bees on them are in the box. I now put the frames brought from the shop into the hive, and re-arrange it, by which time the swarm will return if the queen has a clipped wing. If the queen is not so clipped, then the swarm is to be hived in this prepared hive on the old stand, the same as any swarm is hived. I next put the combs of brood and bees which are in the box, in a hive where I wish the colony to stand, and adjust the entrance to suit their wants, when they are left till the next morning. By this time nearly all of the old or field bees have gone back to their old location, so that the young bees which remain are ready to accept of anything in the shape of a queen.

I now go to my queen-nursery and select such a young virgin queen as I wish them to have, place her in a wire-cloth cage, and take her to this hive. Upon opening the hive, I take out one of the central combs, holding the same up before me. As the bees are all young bees, they will at once take to filling themselves with honey, and while they are so doing, I let the queen run on the comb where there are a few cells of honey not occupied with other bees eating out of them, when the queen will commence to fill herself the same as she sees the others doing. The frame is now lowered down into the hive, and the hive closed. In this way the queen and bees appear natural, and I have yet to lose the first queen put in under such circumstances. As the colony now find that they have a queen, they proceed at once to destroy all of the queen-cells, so that no after-swarms ever issue, at least an experience covering a period of six years says that none do. In the above two plans we have something very near perfection, if not quite so.

Borodino, N. Y.

MANAGEMENT.

Hives, Supers, Hiving Swarms, Bee-Cellars, etc.

Written for the American Bee Journal

BY GEO. H. KIRKPATRICK.

I began bee-keeping in 1881. My first hive was a good 10-frame Langstroth, and though I have made a great many experiments with different styles of hives, I have always held to the Langstroth frame, and I expect to do so until I am sure that I have found something better; but I do not expect to ever see a better one.

The hive I have decided to use exclusive of all others, is a plain, simple box, 13¼x20¼ inches, outside dimensions (made of ⅞-inch lumber), cut square on the top and bottom, and receives 8 Langstroth frames. The bottom-board of this hive is made of ½-inch lumber. To make it secure, I tack on a strip ¼x2 inches, and make a ½-inch groove in it ⅜ of an inch from the top edge; with this strip I make a frame around the bottom, and insert the ends of the bottom-boards into the groove, which makes it solid; and it is also reversible, one side having a ⅜-inch bee-space, which makes it just right to set the brood-chamber on in the summer; while the other side has a 1¼-inch space—this side I prefer to turn upwards in winter. It gives more space for the dead bees to drop in, and one can, with a wire hook, drag them out at the entrance without touching the bottoms of the frames, and annoying the colony.

The supers are of the same dimensions as the hive, and can be tiered up to any desired height, the only difference being in the thickness of the lumber. The ends are made of ¼-inch lumber, and the sides of ⅛-inch. This leaves the super just 12 inches wide—the right width to receive 28 sections, 4¼x4¼, and 7-to-the-foot, and can be used with or without separators.

The cover is made of a ¾-inch board cut 16 inches wide and 24 inches long, and well cleated at each end. I use a wood-zinc break-joint queen-excluding honey-board, and without it the hive would be incomplete.

Spring Management of Bees.

I make a special effort in the spring to get each colony strong, so as to have the hives fairly boiling over with bees at the beginning of the expected honey harvest. It is with these strong colonies that we get the large surplus, and without them our crop of honey would be small, and our pockets empty. It is the strong, populous colonies that fill the sections with nice, white honey, and leave off the propolis. This gives the honey a tasty appearance, and makes it ready for sale at a fair price.

Increase of Colonies.

I prefer to make my increase of colnies by natural swarming. I want large ones, and early. It may be stated, as a rule, that a colony of bees dividing up its forces by swarming, will not produce as large a surplus as a colony under the same condition, that does not swarm. Be this as it may, I prefer the swarm.

Method of Hiving Swarms.

I arrange a number of brood-chambers with about 6 brood-combs, and when a swarm issues, it is hived in one of the prepared brood-chambers on the old stand. The parent colony is then placed on a new stand, and the surplus taken off and placed on the newly-prepared one. A wood-zinc queen-excluding honey-board is placed on the brood-chamber, and the super placed over it. The transfer is usually made while the bees are in the air, or it may be done within 24 hours.

If increase is desired, I work the parent colony for extracted honey the remainder of the season; if increase is not desired, I shake the bees from the combs in the parent colony in front of the newly-hived swarm. I then have all the bees that the old hive contained in the one just right for comb honey. The brood taken away is placed over a colony capable of taking care of it, and is used for starting nuclei, and hatching out the queen-cells that the combs contain. If they are choice stock, valuable queens can be reared in this way, and should be saved.

Cellar for Wintering Bees.

If I were to winter bees on the summer stands, I would by all means use chaff hives, as they are the very best for out-door wintering. But if one keeps as many as 40 colonies, or more, it will pay to build a cellar. The difference in the cost of 40 chaff hives and 40 single-walled ones, will amount to about $60; and that amount will pay for the material to build a cellar, such as I have.

My cellar is 12x18 feet, and built as follows: I first dug a hole 2 feet deep, then built a wall 6 inches high all around the cellar, and on this I placed the sills. I then set up the studding, which was 7 feet in length. I weather-boarded it with pitch-pine lumber, and then cemented it on the outside, and banked the earth up to a height of 6 feet. I used 6-inch joist, and cleated it overhead. I then filled in between the joist with sawdust, and laid on a tight floor.

I then extended the building 7½ feet higher. In the upper story I have a real neat little shop, just the place for nailing up hives and supers, and, in short, just the place to prepare every thing needed in the apiary.

The cellar is ventilated by a chimney built from the cellar, and extended up through the shop. I also have a 6-inch tile running from the cellar out through the bank. This tile I keep filled with flax-tow, except when the cellar gets too warm, then I draw it out, or put it in loosely, so that the air will pass through it.

The cellar is arranged with two doors. I open one of them, and enter the cellar-way; I then close it, and open the second one, which opens into the cellar.

As this cellar cost me only $60, I think that I have a cheap one. When I first began to work in the shop over the bees, I was afraid that the noise would annoy them, but as the hives do not touch the frame of the building, they do not receive any jars. They are placed on scaffolds built from the ground up. The average temperature of the cellar is 44°, and I have no trouble to keep this temperature.

New Paris, O.

CAN BEES HEAR?

The Various Sounds Made by the Bees.

Written for the American Bee Journal

BY A COUNTRY BEE.

The editor of the AMERICAN BEE JOURNAL cannot be expected to be a perfect encyclopedia of bee-literature, with each phrase, and phase, of the various ideas of all the writers labeled and indexed for reference, every time he looks over a manuscript; therefore it is not surprising that the article on page 39, entitled, "Do Bees Hear," by Mr. C. E. Woodward, should have found its way into the BEE JOURNAL.

Permit me to make quotations from an article by Mr. G. B. Peters, Council Bend, Ark., as it appears in the "A B C of Bee-Culture," on the subject of swarming, of which that on page 39 is an exact copy:

"I will remind the reader here that bees have different sounds to accomplish different ends. The only natural sound of bees on the wing is that produced by the returning laborer when she comes, at even, laden with spoils collected from some flowery field. Who has not been charmed by such industrious energy, as those mellow tones died in the entrance of the hive?

"The shrill note of the pugnacious defender of the hive is familiar to every child. The sharp sound of bees just beginning to lead out a swarm, heralds its advent to the apiarist, and is very different from the two former sounds.

"The coarse bass roaring of the swarm before it begins to cluster is heard only when they are in search of the queen, and is kept up by both workers and drones; then follows the sharp cutting sound as they begin to cluster, to call the colony together, which is well known to the bee-keeper as the signal of congregating.

"Then the shrill hissing sound of the escort that leads them to the woods blends with the roar of the rear part of the swarm, making a strange compound heard only from absconding bees. Then, again, in that 'happy hour,' when they have found a house, we hear the happy hum made by a peculiar position of body, and indicating peace and contentment.

"Also a sound of distress, when annoyed by smoke or enemies, rings through the hive, and no wail of misery from any other insect tribe can equal it. Finally we have the ventilating sound at the entrance and all through the hive, which, in hot weather, may be heard quite a distance.

"All these different sounds are instinctively associated with certain purposes, and the movements of the queen are generally governed by them. She thus follows certain sounds as do the whole colony. She never leads the swarm, but is attracted by the roaring mass."

Earlier in the article I find "Queen, workers, drones all take wing, rise high in the air, and abandon old home, kin, and everything forever." Also, "I noticed a revolving lot of bees in each, about five feet through, leading the van with a hissing sound."

[By comparing the article written by Mr. Peters, with that on page 39, it is very evident that Mr. Woodward has copied seven out of his nine paragraphs bodily without credit, and has imposed on us. It is a clear case of inexcusable plagiarism.—ED.]

ODORS AND BEES.

Are Bees Attracted More by Smell than Sight?

Written for the American Bee Journal

BY MRS. M. B. CHADDOCK.

In Prof. Cook's letter about the cardinal flower (on page 926 of *Gleanings*), he says: "All our botanists believe that odor and color in flowers are developed peculiarities .....We see, then, why many showy flowers, like this cardinal bloom, and the Rocky Mountain bee-plant, attract bees and other insects without odor."

But do we *see* it? Is there any flower with nectar in its heart, that is *odorless*? I do not know of any, but I am, of course, unacquainted with the plants named. If the flowers are odorless, the honey must be odorless as well. Did anybody ever smell any odorless honey?

Then I want to ask, does a field of red clover have a stronger smell than a field of white clover? The fragrance of acres of white clover is ethereal, delightful and refined; that of the red clover is stronger and coarser. How does Prof. Cook know that the bees are attracted to the red clover field by color? He admits that the bees are drawn to the white clover by odor, and if the red clover has a stronger odor, what is to hinder them from being influenced by it?

But do the bees generally pass the red clover by? Do they not "roar" over it (at times, when there is no honey in other flowers), alight on the blossoms, and run their tongues into the separate tubes of the blossoms? and will they not keep on doing this until experience teaches them that they can get nothing? They smell the nectar, and are wild to get it, but cannot.

On page 627, of *Gleanings*, Prof. Cook says: "Note the three broad petals. They not only say 'come,' by their bright hues, but by the restful footstool which they offer the weary bees."

Bees care not one whit for "footstools"—they mean business, pure and simple, and do not hunt around for "footstools." When eagerly reaching for nectar, they hang on the tassel like blossoms of flowers, and roar over the maples and box-elders that offer them no footstool at all. A man clinging with his hands and feet to a sheaf of wheat suspended in mid-air, would have just the same kind of a "footstool" that bees have on the maple blossoms.

That bees are attracted almost wholly by odor seems to me to be too plain a proposition to need proof. Once I put some honey in the cellar-way—a small landing in the darkest corner of the cellar—and the bees went through a crack about half an inch in the thick cellar wall, and carried away the honey. The cellar was full of bees, and they went and came in a regular stream. Did they smell that honey?

In the winter time I keep my empty hives and hives that are partly filled with honey, up-stairs in the "ghost-haunted chamber," or, as we generally speak of it, "the long room." The windows and doors of that room are always to be kept shut. But once the door (opening into another room) was left ajar, and the bees coming in through the bed-room windows, found the honey, and began carrying it away.

Again, when I used to "render out" beeswax, the bees always smelled it, and came swarming around the doors and windows, butting their heads against the screens.

To-day I tried a scientific experiment. (I have just as much right to try scientific experiments as Prof.

Cook has.) I was hanging the clothes on the line, which is out near the bee-hives, and I thought of what Prof. Cook said about the cardinal flowers. I said to myself, "All these red aprons and under-flannels must be as conspicuous as the cardinal flower," and I waited and watched to see if the bees that were flying about would alight on them. I watched for about ten minutes, and only one bee alighted on the clothes, and it did not pretend to use its tongue. Then I came into the house, took a saucer of honey and placed it down among the dead grass, and twisted the tops of the grass over it like an Indian te-pee; and as I went back and forth, I watched to see if the bees would find it soon. In a few minutes I saw half-a-dozen bees flying about it. In half an hour they were "roaring" over it, and had carried the honey away, leaving the comb dry.

In "The Physiology of the Honey-Bee" we read: "17. But the celebrated Darwin was mistaken in saying that the colorless blossoms which he names obscure blossoms, are scarcely visited by insects, while the most highly colored blossoms are very fondly visited by the bees. (Gaston Bouvier, 'Les Nectaries,' Paris, 1879.) 18. For, although color attracts bees, it is only one of the means used by nature to bring them in contact with flowers. The smell of honey is certainly the main attraction, and this attraction is so powerful, that frequently, at day-break in the summer, the bees will be found in full flight, gathering the honey which has been secreted in the night, when nothing on the preceding evening could have predicted such a crop. This happens, especially, when there is a production of honey-dew after a storm. We have even known bees to gather honey from tulip trees (*Liriodendron tulipifera*) on very clear moonlight nights."

If the above quotation proves anything, it proves that *odor* is a much more important factor than *color*.

Again, on page 761 of the AMERICAN BEE JOURNAL for 1888, where the editor of the *British Bee Journal* reviews Prof. Cook's "Manual of the Apiary," he says: "Although their sense of color is very keen, our author (Prof. Cook) believes 'more has been made of this matter of color than truth will warrant.' We think so, too, and believe the experiments of Sir John Lubbock go to prove, not that bees prefer one color to another, but that they can be accustomed to recognize a certain color."

So, then, Prof. Cook says that "more has been made of this matter of color than the truth will warrant"—and to this sentiment I say, "Amen!"

Vermont, Ills.

SEASON OF 1888.

A Large Crop of Fall Honey Secured.

Written for the American Bee Journal
BY JNO. A. THORNTON.

When the spring of 1888 opened, my colonies were in average to good condition, and continued to increase in bees till the time for white clover to bloom, when all were in good condition to gather a large surplus; but there was no nectar in the clover that did bloom. The bees had the swarming fever about this time, which was caused by honey-dew gathered from the oak leaves and some other source. It was of very dark color, and not fit for use except for daily food for the bees. From this source there was 1,200 pounds of surplus taken, about July 15, from the surplus departments, which I am saving for spring feeding.

About Aug. 1, the yield commenced from what is commonly called "smart-weed," and honey continued to be gathered up till Sept. 20, when my crop of honey of the season was all gathered. It amounted to 4,500 pounds in one pound sections, and 3,500 pounds of extracted honey, which I have been able, on account of the absence of any clover honey, to sell at about the same price as I could have sold clover honey. In color it would compare favorably with clover honey.

I began the season with 150 colonies, and increased them to 200 colonies. They were in two apiaries five miles apart. One apiary had only 25 colonies in the spring, and cast nearly 40 swarms through the summer, which caused a great amount of work in uniting and keeping down so much increase. As it was, the apiary was only increased to 49 colonies, and the amount of surplus was 1,500 pounds from this apiary.

The home apiary did not swarm quite so much, though nearly 100 swarms issued from May 8 till Sept. 5.

The method of keeping down increase mostly practiced was, to hive the swarm on the old stand, remove the old stand only to one side for three or four days, when the hatched bees were shaken off in front of the new hive and swarm, and the combs and brood were put on the hives of colonies worked for extracted honey.

The prospects for 1889 could not be better, as all idle ground and pasture land have a good crop of white clover from the seed, as well as a large amount of the common red clover, sown on account of the drouth killing all that was sown in 1887.

Lima, Ills., Jan. 14, 1889.

WINTERING.

The Passage-Ways between the Hives in the Cellar.

Written for the Farmers' Review
BY MRS. L. C. AXTELL.

The 200 colonies that we have in the cellar are arranged in rows three hives high. The rows are all wide enough apart so that we can go between them and sweep out the dead bees once in two or three weeks. It is very unhealthy to so arrange the bees that they cannot be swept out, and lie all winter on the cellar bottom and mold, as ours did for the first few years that we kept bees. Before spring the cellar smelled very badly, and when the hives were carried out in the spring, sometimes there would be bushels of dead bees, when there were 100 to 150 colonies in the cellar. Now the cellar smells pure, and when I take a light down, I can see the round balls of bees cluster clear down upon the bottom-board, as the fronts of all the hives are raised an inch.

It is a pretty sight to see the golden beauties all snugly tucked up in a tight cluster. I feel almost constrained to thrust in my hand and pat them—perhaps I would, if it were not for disturbing them.

The past three years have been hard on bees; those who liked to feed bees had the chance to do so to their heart's content. But few bees have lived that were not fed, even in the midsummer time.

Last summer we found some of our colonies clear out of food. The last of August they began to gather honey, and for about 3 weeks they stored it very fast, filled up their hives nicely for winter, and some of the strongest colonies stored some surplus; but bees late in the fall will not carry their honey above into surplus receptacles, until their brood-combs are heavily laden—first with brood and then with honey—and then, as fast as the brood hatches out, they fill the cells with the honey, until, for want of room, they carry the remaining nectar up above into the surplus receptacles. Our 200 colonies produced about 800 or 1,000 pounds of surplus honey last fall, besides plenty for winter stores.

Roseville, Ills.

A Favorable Word from any of our readers, who speak from experience, has more weight with their friends than anything we might say. Every one of our readers can lend us a helping hand, in this way, without much trouble, and at the same time help to scatter apicultural knowledge and promote the welfare of our pursuit.

CONVENTION DIRECTORY.

1889. *Time and Place of Meeting.*

May 1, 2.—Texas State, at Greenville, Tex.
G. A. Wilson, Sec., McKinney, Tex.

May 4.—Susquehanna County, at Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Early Brood-Rearing. — Geo. W. Morris, Cornishville, Ky., on Jan. 26, says:

We have had no zero weather here yet. On Jan. 23 I opened two hives—one moderately strong in bees, and one weak—and found eggs, larvæ, and sealed brood in both. Bees have had a flight every few days up to the present time, and prospects look flattering.

Alfalfa Honey.—Thos. B. Brundage, Sheridan, Wyo. Ter., on Jan. 25, writes:

In the spring of 1888 I purchased 2 colonies of Italian bees (or what were supposed to be Italians, though I do not think they are). They were shipped on May 27, and arrived in Wyoming June 2. I had 2 swarms from one colony on July 14 and 17, and the other colony did not swarm, though it worked diligently. On Sept. 1, I took from the one colony 132 pounds of comb honey, though the rest of them gathered about 45 pounds per colony for winter stores. I have them in a cellar, and so far they have done finely. Honey in this place brings a fair price, and there are only 6 colonies in the county. The bees get their honey from alfalfa and the wild flowers of the valley, which are plentiful, and very rich in nectar. It would be impossible for me to do without the AMERICAN BEE JOURNAL, as it is a true friend to the bee-keeper, and also a guide to success.

Very Mild Winter.—Mr. Abe Hoke, Union City, Ind., on Jan. 27, 1889, writes:

Bees have done nothing for the past two or three years; but the last year was the worst that I have seen since using frame hives. They gathered honey for a few days in June, then everything was at a standstill. I had two natural swarms, and the entire increase from 21 colonies was 4. I had to feed the bees last fall, and I have no doubt that some of them will starve before May, unless I feed more. We have had an unusually mild winter so far; the coldest being 6° above zero. At present we have 6 inches of snow, and the mercury was at 30° above zero at 3 o'clock this afternoon.

Bees Doing Well.—F. N. Johnson, Knoxville, Ills., on Jan. 27, 1889, says:

Bees are doing well. We had a poor season last year. I have kept bees for a number of years, and, like all other bee-keepers, I have had some ups and downs. I have used several styles of hives, but I have settled down to a double chaff-packing hive of my own. It takes nearly a square frame. I have not lost a colony of bees in it for six years. I anticipate a big crop of honey this year.

Report for Two Seasons.—Mr. W. Stout, Wilmington, Del., on Jan. 28, writes:

I got no surplus honey in 1887, and hardly enough to winter my bees; what they did get was gathered too late to cap, and consequently it granulated in the hive. Not being strong colonies, and all old bees, with their vitality all worn out, they were unable to pull through. I lost about half of them. Last spring I commenced with 10 colonies in very poor condition, increased them to 18, and obtained about 300 pounds of comb and extracted, about equally divided. They were put into winter quarters in better condition, both in bees and honey, than I have ever had them, I believe.

Bee-Keepers are Jubilant.—J. M. Young, Rock Bluffs, Nebr., on Jan. 28, 1889, says:

The weather in eastern Nebraska, has been very mild and summer-like so far this winter. The mercury has been to zero but once or twice, and only for a short time. Bee-keepers are feeling jubilant over the fair prospects of wintering their bees with but little loss. My entire apiary is wintering in chaff hives; every mild day the bees can be noted removing dead bees at the entrance of the hives, thereby insuring that the colony is in a healthy condition, and all is well within. The AMERICAN BEE JOURNAL is a weekly visitor to our fireside, and is fully up to the times.

Small Yield of Honey.—Abner Picket, Nassagaweya, Ont., on Jan. 28, 1889, writes:

I commenced the season of 1888 with 107 colonies of bees, a few colonies being weak, but by the time the honey season commenced nearly all were in good working order. I hoped and expected to receive a large yield of honey, but the bees got barely enough to keep up brood-rearing, until the time of the linden honey-flow. Alsike clover yielded but a bare living for the bees, and I had no surplus in the fall from fall flowers. What I have is 10 pounds per colony, and an increase of 22 colonies, for which I am thankful, as many in this county have not had any surplus or any increase, and had to feed to keep their bees from starving.

Bees Wintering Splendidly.—W. H. Fowler, Jennings, Mich., on Jan. 28, 1889, says:

My bees are wintering splendidly. I bought 2 colonies last spring, I had no increase, and only 50 pounds of surplus honey in sections. I did not get a chance to use the extractor, but I robbed each colony of one frame, just to try it.

Foundation Made on Molds.—J. L. Haworth, Quaker Hill, Ind., on Jan. 24, 1889, writes:

I commenced the season of 1888 with 16 colonies of bees, some of which were weak. I increased them to 24 good colonies, and secured 115 pounds of comb honey, and 820 pounds of extracted. Nearly 700 pounds of it was gathered in the fall. It was very thick, and almost as white as the best white clover honey. I procured one of the "foundation molds" last spring, and made very good heavy foundation with it, but I failed to make any thin enough for the sections. The bees seem to work on it just as well as on Dadant's foundation. My apiary is situated three miles east of Georgetown, Ills. I shall move my bees the coming spring; they are in the cellar now.

Japanese Buckwheat, etc.—T. R. Canady, Roark, Mo., on Jan. 23, says:

I commenced with 12 colonies in 1888, increased them to 24, and obtained 75 pounds of nice comb honey, and 100 pounds of extracted. Comb honey in one-pound boxes sells for 15 cents per pound; extracted at 10 cents per pound. I had to feed 175 pounds of granulated sugar to winter my bees on, so I did not get any more honey than I fed sugar. Bees are wintering well so far. The winter is very mild, and bees fly almost every day. They just had a picnic to day in the sunshine. The prospects are good for next season. I sowed 6 pounds of Japanese buckwheat, and harvested 5½ bushels of the grain. I think that it is the best buckwheat that was ever introduced into this country.

Bees Packed for Winter.—J. E. Turner, Woodington, O., on Jan. 19, says:

I began bee-keeping in the spring of 1888, with 1 colony of bees, which I increased to 4 by natural swarming, and caught 1 swarm, making 5. I put them into winter quarters during the latter part of October, by packing them with chaff, in cases 4 inches larger all around than the hives. I think that they are wintering well. My surplus was about 50 pounds, principally white clover honey. The prospect for next year is very good.

No Danger of Over-Production.—J. M. A. Miller, Galva, Ills., on Jan. 24, 1889, says:

My report for 1888 is 40 pounds of comb honey from 48 colonies, with 7 colonies that had to be fed to keep them alive. This is not very encouraging, but I hope for better days. I keep my bees in the cellar, and they seem to be all right; with this warm winter, I think that they would do well on the summer stands. If we do not get more honey soon, there will be no danger of an over-production of honey.

Good Results—Sterile Queen.—Jos. E. Stoner, Atlantic, Iowa, on Jan. 24, 1889, writes:

I commenced the spring of 1887 with 5 colonies in old boxes, for which I paid $3 each. I transferred them to Simplicity hives, increased them to 14 colonies, and took 150 pounds of comb honey, worth 15 cents per pound. I commenced in 1888 with 12 colonies, increased them to 16, and took 550 pounds of honey—and now old bee-keepers say that the last two years were the poorest on record.

I put my bees into a cave on Dec. 10. I took off the cap, put on one section-case, put in the slatted honey-board, one thickness of thin cloth, and filled it with fine oats-chaff, leaving the cap off, and I will not put it on again until the bees are ready to be put on the summer stands. This I think is as good a way to ventilate a hive, and at the same time retain the heat of a colony as any I have read of on the ventilation of the bee-hive.

I had one colony with a queen that was sterile. After keeping her four weeks, and finding that she would not deposit any eggs, I destroyed her, and not having any queen to replace her, I gave them eggs from which they reared a queen; but it was too late in the fall for her to become fertilized, as there were no drones. Will she become fertilized next spring, and go on performing the duty of brood-rearing the same as any queen?

[No. In order to save that colony, you will have to give it a fertile queen as early as possible in the spring, even if you have to take it from another colony.—ED.]

Caught a Runaway Swarm.—S. E. Wescott, Oxford, N. Y., on Jan. 21, 1889, writes:

I caught a swarm of runaway Italian bees on July 2, 1888, and hived them in a Langstroth hive on strips of foundation. It was a large swarm, and I expected them to get enough honey to winter on, but they did not. On Oct. 4 they had 9 pounds of honey. Up to this time they had been at the place where I was working. I then moved them home, and fed them 13 pounds of sugar made into syrup. When I examined them I found them nearly one-half black bees. Will some one state a good reason for this? The queen is well striped, and so were all that came with here. They seem to be wintering well, and are in good condition.

Laying Workers.—John B. Avery, of Stittville, N. Y., writes:

Last summer I had a colony with laying workers. It being my first experience with them, I was puzzled as to how to get rid of them. I had read that it was a hard matter to get them to accept a queen as long as there were laying workers in the hive. (They had been at work for some time, for the drones were hatching, and they had 6 frames of eggs and brood. A goodly part of the brood was sealed.) Having a laying queen on hand, I thought that I would experiment with them. I did not divide the colony, as Mr. Beckly did (see page 42), but I took away all their brood and eggs, and then shook them all in front of a new hive, filled with empty combs, and placed it on the old stand. It worked well. The queen commenced laying at once, and that was the last of the laying workers.

Bee-Keeping in Nebraska.—Ira N. Lyman, St. Peter, Nebr., on Jan. 14, 1889, writes:

We have some large apiaries in this (Cedar) and adjoining counties. One man in this county, in a good place near the Missouri river, has had bees a great many years, and has hives of almost every pattern, and if any one wants to see the old-fashioned bee-gum, or hollow log, used to put bees in, he can see it there now. He built a new bee-house last spring, with a good shingle roof, in an angle like an old-fashioned rail fence. It backs toward the northwest, and is open on the southeast. He has two rows of hives, one above another.

I put my bees into the cellar under a kitchen. It is a good, dry, warm cellar. No vegetables freeze in it. I put the bees into the cellar on Nov. 28, 1888. They were flying on Nov. 27, when it turned colder. I thought that I would put them into the cellar before it got too cold.

I weighed the bee-hives this year, when I put them into the cellar, with the covers on, as they stood on the summer stands. One weighed 68 pounds. One of my new colonies came out on Aug. 29. It was a second swarm. One colony weighed 90 pounds. It was the first swarm out of the same old colony. The old colony that it came out of, weighed 80 pounds; another 62 pounds, and one 86 pounds, with about 20 pounds off for top covers. They are in 10 frame Langstroth hives. Bees carried in pollen as late as Oct. 14—very late for this part of the country. I introduced an Italian queen into a weak, queenless colony on June 24, 1888, and from that colony I received my 2 new swarms. I think that is good for last year. Colonies all entered the cellar last fall in good condition, save one. It took drones in with them. I fear they have no queen. I did not examine them as I should have done.

Bee-Keeping in Arkansas.—J. A. King, Sub Rosa, Ark., on Jan. 14, 1889, writes:

So far the winter in this part of Arkansas has been very mild and favorable for the wintering of bees. We have had no snow, and the temperature has not been lower than about 20°, Fahr. I began last spring with 24 colonies of bees, increased them to 38, and obtained an average of about 60 pounds of extracted honey per colony, which is about a fair average for this locality. The majority of bees in this neighborhood are blacks, managed after the fashion of "good auld times," and have hardly stored enough to keep "the wolf" from their own door. I have the only Italian bees that are kept in the immediate vicinity.

A great many bee-keepers here "know it all," in their own estimation, and would have the "king" to "boss," and the drones to lay the eggs, and prefer the old "gum" to any style of "hive." I am well pleased with the BEE JOURNAL, and wish it a long and prosperous career. Bee-keeping, in its more approved form, is slowly gaining a foothold in this State. Other industries seem to consume all the time, and those engaged in bee-keeping are content to follow on in the tracks their grandfathers left in this art. Although we have never heard the mention of cotton, it seems to be about our most profitable honey-plant.

Wintering in a Bee-House.—Mr. Joseph Hillman, Galesburg, Ills., on Jan. 26, 1889, says:

I have 70 colonies of bees wintering nicely in a house built for the purpose, with double walls, and filled in with sawdust. I could not do without the AMERICAN BEE JOURNAL.

Bee-Keeping in Colorado.—R. C. Aikin, of Holyoke, Colo., on Jan. 19, 1889, writes thus:

I am now a resident of Colorado, but lived the past 15 years at Shambaugh, Iowa. The summer of 1887 was poor, but I made some increase of colonies, and got a few pounds of surplus honey, and by averaging stores, the bees had barely enough to winter on. I put 46 colonies into the cellar in the fall of 1887, and in the spring of 1888 I had 35 to start with. I increased them to 50 colonies, and obtained 2,000 pounds of mostly extracted honey, from heart's ease. The best yield of one colony was 116 pounds; the average yield, spring count, being 57 pounds. The honey was all of fine quality. I sold 1,000 pounds in Iowa, at whole-sale, the extracted at 10 cents, and the comb honey at 12½ cents. I brought 1,000 pounds to Colorado, and I am retailing it at 15 to 25 cents. I am now in a very new county, being only three years since the first settler came into it.

There is not a tree for miles and miles, and not much else but buffalo grass; but I am here to try the bee-business in connection with poultry on a quarter section of government land. I brought with me from Iowa 20 colonies of bees, and I now have them safely housed in a good cave. My best average yield in Iowa was 227 pounds per colony; the poorest, 0—the latter only one year; while my average for the past ten years was close to 100 pounds per colony, spring count. The desire to possess some real estate, and not being able to buy in Iowa, has brought me here. I am the first to embark in the bee business in this part of Colorado; and while I do not expect the yields I had in Iowa, yet, being the only apiary for many miles around, and with good prices, I hope to succeed.

Report for Two Years.—James Jardine, Ashland, Nebr., on Jan. 14, writes:

I have not done very well with my bees for the last two years. In 1887 I had over 100 colonies, and they did not make any more than a living till the basswood came into bloom; that helped them some until the dry weather set in, and then they had a hard time of it to store a very little in the sections. I did not get more than 100 pounds in all. They were put into winter quarters, the most of them with plenty of honey, but I do not think that it was very good honey; at least my bees did not winter well on it, and when I took them out on April 9, I found 15 colonies dead, that had the diarrhea very badly. Some of the other colonies were in very bad condition, and they dwindled down very low, till the warm weather came, then they did better.

I had but a few swarms in 1888, but got about 1,000 pounds of good honey in the comb, fit for market, which I sell at home this year for 25 cents per pound. I put 80 colonies into the bee-cellar on Nov. 20, 1888; all were in pretty good condition for winter, and they seem to be doing nicely so far. The temperature is at 42° to 45°.

I hope that we will have better honey seasons for some time hereafter, for if I had depended upon my bees for a living the last two years, it would have been rather slim living. I was very sorry that I could not attend our State bee-convention. I have had the rheumatism for a month or so, but I am getting better.

Carniolan Bees.—F. H. Harrington, Hartwick, N. Y., asks the following:

1. Are Carniolan and Caucasian bees the same? 2. Can Carniolans fly at a lower temperature than Italians? 3. Are they more willing to enter supers for storing comb honey than Italians? 4. Would a Carniolan queen mated with an Italian drone produce workers superior to pure Italians, for comb honey and wintering on summer stands in a cold climate?

At our request, S. W. Morrison, M. D., answers as follows:

1. Carniolans and Caucasians are certainly very different bees, if I may judge the Caucasians from the only person I can find who has written of them. Carniolans are very gentle, unsurpassed as workers, splendid defenders of their stores against robbers, not disposed to rob, *not made cross by smoke, and do not build more queen cells than Italians.* They are of a dark gray color, *not "orange like,"* not long and slim," not *given to swarming more than Italians.* The reverse of the italicized lines will describe Caucasians.

2. While I had both Italians and Carniolans together in my apiary I could have demonstrated on any morning during the honey season, to any visitor, the fact that Carniolans are always at work in the morning before Italians, and especially is this true and noticeable in cold mornings.

3. When honey is abundant I do not claim that Carniolans will be [illegible] more readily than Italians; but during a season like the past one, many persons have written me, who had both races, that they got surplus only from Carniolans. New swarms will begin storing in boxes within three days, invariably, if properly treated.

4. Carniolan queens mated with Italians sometimes produce workers which are very irritable, but not as frequently as do black queens mated with Italian drones. I have seen some very fine workers from the "mixing," but desiring only purely mated queens in my apiary, I did not keep them. No race is superior to Carniolans for wintering.

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861 — OLDEST BEE PAPER IN AMERICA

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

If You Live near one post-office and get your mail at another, be sure to give the address that we have on our list.

Give a Copy of "Honey as Food and Medicine" to every one who buys a package of honey. It will sell lots of it.

Dr. Miller's Book, "A Year Among the Bees," and the AMERICAN BEE JOURNAL for one year—we send both for $1.50.

If you Lose Money by carelessly enclosing it in a letter, it is without excuse, when a Money Order, which is perfectly safe, costs but 5 cents.

New Subscribers can obtain the full numbers for 1888 and 1889 for $1.80, if application be made at once, before all the sets of 1888 are gone.

Paper Boxes—to hold a section of honey for retail dealers. We have two sizes on hand to carry sections 4¼x4¼ and 5¼x5¼. Price, $1.00 per 100, or $8.50 per 1,000.

Preserve Your Papers for future reference. If you have no **BINDER** we will mail you one for 60 cents; or you can have one FREE, if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

Please write *American Bee Journal* on the envelope when writing to this office. Several of our letters have already gone to another firm (a commission house), causing vexatious delay and trouble.

Honey.—We have for sale a quantity of Extracted Honey in kegs holding about 220 pounds each, which we are selling, free on board the cars, at 8 cents per pound for Amber and 9 cents per pound for White.

In order to pay you for getting *new subscribers* to send with your renewal, we make you this offer. For each yearly subscriber, with $1.00, you may order 25 cents worth of any books or supplies that we have for sale—as a **premium.**

Apiary Register.—All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and begin to use it. The prices are as follows:

For 50 colonies (120 pages)	$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	Club
The American Bee Journal	1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Magazine	1 50	1 40
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 65
Canadian Bee Journal	2 00	1 80
Canadian Honey Producer	1 40	1 30
The 8 above-named papers	5 65	5 00
and Cook's Manual (**old edition**)	2 25	2 00
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 75	1 50
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
How to Propagate Fruit	1 50	1 25
History of National Society	1 50	1 25

Do not send to us for sample copies of of any other papers. Send for such to the publishers of the papers you want.

Hastings' Perfection Feeder.—This excellent Feeder will hold 2 quarts, and the letting down of the feed is regulated by a thumb-screw. The cap screws securely on. It is easy to regulate—either a spoonful or a quart—and that amount can be given in an hour or a day, as desired. By it the food can be given where it is most needed—just over the cluster. Not a drop need be lost, and no robber bees can get at it. A single one can be had for 40 cents, or a dozen for $3.50, and it can be obtained at this office. Postage 10 cents extra.

International Bee-Convention.—The Pamphlet Report of the Columbus, Ohio, Bee-Convention can be obtained at this office, by mail, postpaid, for 25 cents. This pamphlet contains the new bee-songs and words, as well as a portrait of the President. Bound up with the history of the International Society, and a full report of the Detroit, Indianapolis and Chicago conventions, for 50 cents, postpaid.

A Modern Bee-Farm and its Economic Management, by S. Simmins, of Rottingdean, Brighton, England, is the title of a new book of about 200 pages, printed on excellent paper, and nicely bound in cloth. Price $1.00. For sale at this office.

Clover Seeds.—We are selling *Alsike Clover Seed* at the following prices: $8.00 per bushel; $2.25 per peck; 25 cents per lb. *White Clover Seed:* $10.00 per bushel; $2.75 per peck; 30 cents per lb. *Melilot or Sweet Clover Seed:* $6.00 per bushel; $1.75 per peck: 20 cents per lb.—by express or freight.

The Date on the wrapper label of your paper indicates the end of the month to which you have paid. If that is past, please send us a dollar to carry the date another year ahead.

Honey and Beeswax Market.

SAN FRANCISCO.

HONEY.—White comb, 10@11½c.; dark, 6½@8c. White extracted, 6½c.; light amber, 5½@6c.; dark amber, 4½@5½c.
BEESWAX.—18@22c.
Jan. 25. O. B. SMITH & CO., 423 Front St.

BOSTON.

HONEY.—We quote: Best white clover 1-pounds, 17@18c.; best 2-lbs., 16@17c. Extracted, 8@9c. The trade is dull.
Jan. 19. BLAKE & RIPLEY, 57 Chatham Street.

DETROIT.

HONEY.—Best white 1-lbs., 16@18c. Supply is not large, but about equal to the demand. Market will be bare of comb honey long before the new crop is ready.
BEESWAX.—22@23c.
Jan. 18. M. H. HUNT, Bell Branch, Mich.

CHICAGO.

HONEY.—We quote: White clover 1-lbs., 16@17c.; 2-lbs., 14@15c. Good dark 1-lbs., 13@14c.; 2-lbs., 12@13c. Buckwheat 1-lbs., 12@14c; 2-lbs., 11@11½c.—Extracted, 6½@8½c. depending upon quality and style of package. Market dull and stock sells slowly.
BEESWAX.—22c.
Jan. 24. S. T. FISH & CO., 189 S. Water St.

ST. LOUIS.

HONEY.—Choice white clover comb, 13@15c.; fair 11@12c.; dark, 8@10c. Extracted, dark, in barrels, 5@5½c; choice, 5½@6c.; in cans, 6@7½c. Market is quiet but steady.
BEESWAX.—20c. for prime.
Jan. 17. D. G. TUTT & CO., Commercial St.

CHICAGO.

HONEY.—Best 1-lbs., 17@18c. Extracted, 7@9c. for best quality, according to body, flavor and style of package. Trade is limited to local consumption. All grades of comb honey are slow at lower figures than given above. But few will buy dark comb.
BEESWAX.—22c. R. A. BURNETT,
Jan. 17. 161 South Water St.

MILWAUKEE.

HONEY.—We quote: Fancy white 1-lbs., 17@18c.; 2-lbs. 15@16c. Good dark 1-lbs., 15@16c.; 2-lbs., 14@15c.; fair 1-lbs., 12@14c. Extracted, white, in kegs and ½-barrels, 8½@9c.; amber in same, 7½@8c.; in pails and tin, white, 9½@10c; in barrels and ½-barrels, dark, 5½@6c. Market dull. The very best sells slowly, and inferior qualities are neglected very much. Damaged, broken and leaky comb honey not wanted.
BEESWAX.—22@23c.
Jan. 10. A. V. BISHOP, 142 W. Water St.

CINCINNATI.

HONEY.—We quote extracted at 5@8c. per lb. Best white comb honey, 12@16c. Demand slow, with a smaller supply than ever at this season for the past 10 years.
BEESWAX.—Demand is good—20@22c. per lb. for good to choice yellow, on arrival.
Jan. 9. C. F. MUTH & SON, Freeman & Central Av.

KANSAS CITY.

HONEY.—White 1-lbs., 16c.; fall, 14c.; California 1-lbs. 14c.; white 2-lbs., 14c.; extra 2-lbs., 13c. Extracted, white California, 8c.; amber, 7c. Market dull.
BEESWAX.—20@22c.
Jan. 22. CLEMONS, CLOON & CO., cor 4th & Walnut.

KANSAS CITY.

HONEY.—Choice 1-pounds, 15@16c.; dark 1-lbs. 12c.; 2-lbs., 14c.; dark, 11c. White extracted in 60-lb. cans, 8c.; amber, 7c.; in barrels and kegs, 5@8c. Demand good, prices steady, and stock large.
BEESWAX.—None in market.
Jan. 4. HAMBLIN & BEARSS, 514 Walnut St.

DENVER.

HONEY.—White, in 1-lb. sections, 15@16c. Extracted, 9@10c.
BEESWAX.—20c.
Jan. 1. J. M. CLARK & CO., 1409 Fifteenth St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lbs., 14@15c.; 2-lbs., 12c Fair white 1-lbs., 14@15c.; 2-lbs., 10 to 11c. Buckwheat 1-lbs., 10@11c.; 2-lbs., 9@10c. Extracted white, 7½@8c.; dark buckwheat, 6@6½c. which is in good demand. Market dull, except for extracted buckwheat; for all other kinds it is quiet, owing to unseasonable weather, we believe
HILDRETH BROS. & SEGELKEN,
Jan. 10. 28 & 30 W. Broadway, near Duane St.

SAN FRANCISCO.

HONEY.—We quote: Extracted, white, 6½ cents; amber, 6c. Comb, white 1-lbs., 13@14c.; 2-lbs., 13c.; amber, 10@11c. Demand is of a jobbing nature, and arrivals are small.
BEESWAX.—19@20c.
SCHACHT, LEMCKE & STEINER,
Jan. 8. 16 & 18 Drumm St.

Your Full Address, plainly written, is very essential in order to avoid mistakes.